

EXHIBIT D

1
2 IN THE UNITED STATES DISTRICT COURT
3 FOR THE SOUTHERN DISTRICT OF NEW YORK
4 Case No. 1:20-cv-01106-LGS

5 -----x

6 KEWAZINGA CORP.,

7 Plaintiff,

8 -against-

9 GOOGLE, LLC,

10 Defendant.

11 -----x

12 November 16, 2020

10:11 a.m.

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14
15 Remote Videotaped Deposition
16 of JEFFREY LUBIN, an Expert Witness in
17 the above-entitled action, located in
18 Princeton, New Jersey, taken Via Zoom
19 before Dawn Matera, a Shorthand Reporter
20 and Notary Public.

21 * * *

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23
24
25 Job No. CS4338777

<p style="text-align: right;">Page 2</p> <p>1 2 APPEARANCES: 3 4 STROOCK STROOCK & LAVAN LLP Attorneys for Plaintiff 5 180 Maiden Lane New York, New York 10038 6 (212)806-5400 7 By: SAUNAK DESAI, ESQ. sdesai@stroock.com 8 IAN DiBERNARDO, ESQ. idibernardo@stroock.com 9 10 DESMARAIIS LLP Attorneys for Defendant 11 101 California Street San Francisco, California 94111 12 (415)573-1806 13 14 By: EMILY CHEN, ESQ. echen@desmarais.com AMEET MODI, ESQ. 15 emodi@desmarais.com DAVID FREY, ESQ. 16 dfrey@desmarais.com 17 18 Also Present: 19 JONATHAN POPHAM, Videographer 20 ~oOo~ 21 22 23 24 25</p>	<p style="text-align: right;">Page 4</p> <p>1 Lubin 2 THE VIDEOGRAPHER: Good morning. 3 We are going on the record at 4 a.m. on November 16th, 2020. Please 5 note the microphones are sensitive and 6 may pick up whispering, private 7 conversations and cellular 8 interference. Audio and video 9 recording will continue until all 10 parties agree to go off the record. 11 This is media number 1 of the 12 video deposition of Dr. Jeffrey Lubin 13 taken by counsel for defendant in the 14 matter of Kewazinga Corporation versus 15 Google, LLC filed in the United States 16 District Court for the Southern 17 District of New York, case number 18 1:20-cv-01106-LGS. 19 This deposition is being held at 20 multiple locations via 21 videoconference. My name is Jonathan 22 Popham from Veritext and I am the 23 videographer. The court reporter is 24 Dawn Matera, also from Veritext. 25 I am not authorized to</p>
<p style="text-align: right;">Page 3</p> <p>1 2 STIPULATIONS 3 IT IS HEREBY STIPULATED AND AGREED, by 4 and among counsel for the respective 5 parties hereto, that the filing, sealing 6 and certification of the within 7 deposition shall be and the same are 8 hereby waived; 9 IT IS FURTHER STIPULATED AND AGREED 10 that all objections, except as to form of 11 the question, shall be reserved to the 12 time of the trial; 13 IT IS FURTHER STIPULATED AND AGREED 14 that the within deposition may be signed 15 before any Notary Public with the same 16 force and effect as if signed and sworn 17 to before the Court. 18 * * * 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 5</p> <p>1 Lubin 2 administer an oath. I am not related 3 to any party in this action, nor am I 4 financially interested in the outcome. 5 Counsel will now please state 6 their appearances and affiliations for 7 the record. 8 MR. DESAI: On behalf of 9 plaintiff Kewazinga Corp., this is 10 Stroock Stroock & Lavan. And also on 11 the line on behalf of Kewazinga Corp. 12 is Ian DiBernardo, also of Stroock & 13 Stroock & Lavan. 14 MS. CHEN: Good morning. This 15 is Emily Chen representing Google, 16 Inc. with the law firm of Desmarais 17 LLP. With me on the line are my 18 colleagues Ameet Modi and David Frey. 19 THE VIDEOGRAPHER: Okay. Anyone 20 else? 21 If that's everyone, will the 22 court reporter please swear in the 23 witness. 24 J E F F R E Y L U B I N, having been 25 first duly sworn by Dawn Matera, a Notary</p>

<p style="text-align: right;">Page 10</p> <p>1 Lubin</p> <p>2 before.</p> <p>3 Q. Okay. Exhibit 2 is a notice of</p> <p>4 deposition to Kewazinga pursuant to Rule</p> <p>5 30(b)(1) just noticing the deposition</p> <p>6 today by you.</p> <p>7 A. Okay.</p> <p>8 Q. Do you have any questions about</p> <p>9 this notice of deposition?</p> <p>10 A. Let me just glance through it</p> <p>11 for a moment.</p> <p>12 (Witness reviews document.)</p> <p>13 A. No, no questions.</p> <p>14 Q. Thank you. And you understand</p> <p>15 you're here today testifying on behalf of</p> <p>16 Kewazinga regarding the claim</p> <p>17 constructions in this case, right?</p> <p>18 A. Right.</p> <p>19 Q. Okay. Let's turn back to</p> <p>20 Exhibit 1, your report, the first page of</p> <p>21 Exhibit 1 indicates that this is your</p> <p>22 claim construction and expert report and</p> <p>23 declaration, right?</p> <p>24 A. Right.</p> <p>25 Q. And on the very last page of</p>	<p style="text-align: right;">Page 12</p> <p>1 Lubin</p> <p>2 Q. And it says "Executed on</p> <p>3 October 16th, 2020," is that right?</p> <p>4 A. Right.</p> <p>5 Q. And you actually did execute</p> <p>6 your declaration on October 16th, 2020,</p> <p>7 right?</p> <p>8 A. Yes, I did.</p> <p>9 Q. So let me ask you a few</p> <p>10 questions about your declaration, okay?</p> <p>11 A. Sure.</p> <p>12 Q. When did you first start</p> <p>13 working on your claim construction</p> <p>14 declaration, Exhibit 1 here, Dr. Lubin?</p> <p>15 MR. DESAI: Objection to form.</p> <p>16 A. When did I start -- can you</p> <p>17 just be a little more specific on that?</p> <p>18 Q. When did you start putting</p> <p>19 words on the page for your claim</p> <p>20 construction declaration?</p> <p>21 MR. DESAI: Same objection.</p> <p>22 A. I did not put words on the page</p> <p>23 myself. They were drafted by Kewazinga.</p> <p>24 They were drafted after extensive</p> <p>25 conversations between us, and I looked it</p>
<p style="text-align: right;">Page 11</p> <p>1 Lubin</p> <p>2 this document you have your handwritten</p> <p>3 signature on there, right?</p> <p>4 A. Right.</p> <p>5 MR. DESAI: Just note, clarify</p> <p>6 for the record, because I think this</p> <p>7 Exhibit 1 has the report and</p> <p>8 declaration and all the attached</p> <p>9 exhibits. So I guess it's, you know,</p> <p>10 in the Exhibit 1 itself, somewhere in</p> <p>11 the middle is the signature page.</p> <p>12 But, you know, I think we all</p> <p>13 understand. I just wanted to clarify</p> <p>14 for the record.</p> <p>15 MS. CHEN: Thank you.</p> <p>16 Q. So as counsel noted, this</p> <p>17 Exhibit 1 includes all of the exhibits</p> <p>18 that were attached to your declaration,</p> <p>19 right?</p> <p>20 A. Right.</p> <p>21 Q. And on the last page of your</p> <p>22 report, which is page 27 of the main body</p> <p>23 of the report, there is your signature</p> <p>24 there, right?</p> <p>25 A. Right.</p>	<p style="text-align: right;">Page 13</p> <p>1 Lubin</p> <p>2 over and saw that it met my</p> <p>3 specifications and I signed it.</p> <p>4 Q. When did you begin reviewing</p> <p>5 the patents in this case?</p> <p>6 A. I can check my notes if you'd</p> <p>7 like, but it was sometime after</p> <p>8 October 16th. I'm sorry, sometime -- let</p> <p>9 me look at my notes. Is it okay if I</p> <p>10 open a document on my computer?</p> <p>11 MR. DESAI: I would refrain from</p> <p>12 that. I would advise you not to do</p> <p>13 that. To the extent that you have</p> <p>14 some memory on it, you can answer from</p> <p>15 your memory. If you would like, we</p> <p>16 can talk off the record about checking</p> <p>17 at a break or something. But right</p> <p>18 now, just please answer from what you</p> <p>19 can recall, even if you don't recall</p> <p>20 an exact date. To the extent that you</p> <p>21 can answer the question.</p> <p>22 A. Okay. It was, I would say, a</p> <p>23 few weeks before that.</p> <p>24 Q. And so a few weeks before</p> <p>25 October 16th; is that right?</p>

<p style="text-align: right;">Page 14</p> <p>1 Lubin</p> <p>2 A. Right.</p> <p>3 Q. Had you seen the patents before</p> <p>4 you began reviewing the patent for this</p> <p>5 case?</p> <p>6 A. Had I seen which patents?</p> <p>7 Q. There are three patents at</p> <p>8 issue in this case; is that right?</p> <p>9 A. Yes.</p> <p>10 Q. Had you seen any of those three</p> <p>11 patents prior to your work on this case?</p> <p>12 A. No.</p> <p>13 Q. And I understand that you</p> <p>14 signed your declaration on October 16th,</p> <p>15 2020, but when did you finalize your</p> <p>16 opinions?</p> <p>17 MR. DESAI: Objection to form.</p> <p>18 A. It was shortly before signing.</p> <p>19 Q. If you had to estimate how much</p> <p>20 before signing, what would you estimate?</p> <p>21 MR. DESAI: Objection to form.</p> <p>22 THE WITNESS: Sorry.</p> <p>23 MR. DESAI: You can go ahead.</p> <p>24 A. It was around a day before I</p> <p>25 signed.</p>	<p style="text-align: right;">Page 16</p> <p>1 Lubin</p> <p>2 all, that they understood my position,</p> <p>3 and once that was clear in conversation,</p> <p>4 they made the draft and I reviewed it and</p> <p>5 signed it.</p> <p>6 Q. You relied on conversations</p> <p>7 with Kewazinga's attorneys to form your</p> <p>8 opinions in this case, true?</p> <p>9 MR. DESAI: Objection to form</p> <p>10 and mischaracterizes the testimony.</p> <p>11 A. No, that's not true. They</p> <p>12 were -- it's not true.</p> <p>13 Q. Why not?</p> <p>14 A. Because I am the expert and I</p> <p>15 understand this material. And I was --</p> <p>16 they were -- they understand patents, and</p> <p>17 so they were giving me, telling me what</p> <p>18 was at stake, what were the issues. And</p> <p>19 I was giving my expert opinion on, you</p> <p>20 know, on those issues. It was a fairly</p> <p>21 narrow conversation. This was about</p> <p>22 claim constructions.</p> <p>23 Q. How long were the conversations</p> <p>24 that you had with Kewazinga's counsel?</p> <p>25 MR. DESAI: Objection to form.</p>
<p style="text-align: right;">Page 15</p> <p>1 Lubin</p> <p>2 Q. How long did you spend</p> <p>3 reviewing the draft declaration?</p> <p>4 MR. DESAI: Objection to form.</p> <p>5 A. I don't really recall.</p> <p>6 Q. You mentioned --</p> <p>7 A. Some number of hours.</p> <p>8 Q. About five hours or ten hours?</p> <p>9 MR. DESAI: Objection.</p> <p>10 A. After -- it was probably two</p> <p>11 hours.</p> <p>12 Q. So you did not put words on the</p> <p>13 page yourself, they were drafted by</p> <p>14 Kewazinga after conversations with</p> <p>15 counsel. And you spent probably about</p> <p>16 two hours reviewing the draft, is that</p> <p>17 fair?</p> <p>18 MR. DESAI: Objection to form.</p> <p>19 A. The words were put on the page</p> <p>20 after very extensive conversations</p> <p>21 between myself and counsel. So it was</p> <p>22 not like I was glancing over them in a</p> <p>23 cursory fashion. It was that we had</p> <p>24 already agreed on -- or I had already,</p> <p>25 you know, reviewed and made sure that we</p>	<p style="text-align: right;">Page 17</p> <p>1 Lubin</p> <p>2 A. I would say in the tens of</p> <p>3 hours.</p> <p>4 Q. So less than 100 hours; is that</p> <p>5 right?</p> <p>6 A. Yes. I would say less than ten</p> <p>7 hours.</p> <p>8 Q. Did you make any revisions to</p> <p>9 the drafts that Kewazinga's counsel</p> <p>10 provided while you were drafting your</p> <p>11 opinions?</p> <p>12 MR. DESAI: Objection to form.</p> <p>13 A. No.</p> <p>14 Q. Did anyone else revise your</p> <p>15 declaration?</p> <p>16 A. No. No.</p> <p>17 Q. Let's discuss the materials you</p> <p>18 reviewed in forming your opinions, okay?</p> <p>19 A. Sounds good.</p> <p>20 Q. All right. Exhibit E to your</p> <p>21 declaration is the joint claim</p> <p>22 construction and prehearing statement in</p> <p>23 this case, including the chart labeled</p> <p>24 Exhibit 1. Do you see that?</p> <p>25 A. Yeah, in my paper copy.</p>

<p style="text-align: right;">Page 22</p> <p>1 Lubin</p> <p>2 amount of work going on related to that.</p> <p>3 Q. Were you involved in the</p> <p>4 application for the Burt patent?</p> <p>5 A. No.</p> <p>6 Q. You mentioned that you were</p> <p>7 familiar with the Burt patent from</p> <p>8 earlier in your career. So about how</p> <p>9 long did you spend reviewing the Burt</p> <p>10 patent?</p> <p>11 MR. DESAI: Objection to form.</p> <p>12 A. A couple of hours. Again, it's</p> <p>13 a very hazy memory of how much I spent on</p> <p>14 one thing.</p> <p>15 Q. And to be clear, when I say</p> <p>16 Burt patent, I mean U.S. patent number</p> <p>17 5,469,032, which is incorporated by</p> <p>18 reference in the '325 and '234 patent and</p> <p>19 attached as Exhibit F to your</p> <p>20 declaration; is that right?</p> <p>21 A. That's right.</p> <p>22 MR. DESAI: I just want to</p> <p>23 clarify, because I think you misspoke</p> <p>24 or I think it came out wrong. It's</p> <p>25 5,649,032.</p>	<p style="text-align: right;">Page 24</p> <p>1 Lubin</p> <p>2 right?</p> <p>3 A. Yes.</p> <p>4 Q. The third patent is U.S. patent</p> <p>5 number 9,055,234, also known as the '234</p> <p>6 patent, which is attached as Exhibit A to</p> <p>7 your declaration; is that right?</p> <p>8 A. Yes.</p> <p>9 Q. What, in your opinion, is novel</p> <p>10 about the Kewazinga patent?</p> <p>11 MR. DESAI: Objection to form.</p> <p>12 A. That was not my assignment</p> <p>13 here. And I don't have an opinion about</p> <p>14 that at this time. All I was asked to do</p> <p>15 was give my expert opinion on those two</p> <p>16 claim constructions, which I did. So I</p> <p>17 would have to review in much greater</p> <p>18 detail to give an answer to that one, I</p> <p>19 am afraid.</p> <p>20 Q. Besides being asked to give</p> <p>21 your expert opinion on the two claim</p> <p>22 construction identified in your expert</p> <p>23 report, is there anything else included</p> <p>24 in your assignment here?</p> <p>25 MR. DESAI: Objection to form.</p>
<p style="text-align: right;">Page 23</p> <p>1 Lubin</p> <p>2 MS. CHEN: Thank you, Mr. Desai.</p> <p>3 Q. So the Burt patent is U.S.</p> <p>4 patent number 5,649,032; is that right?</p> <p>5 A. Yes.</p> <p>6 Q. Did you have a role in</p> <p>7 developing Kewazinga's constructions of</p> <p>8 these claims?</p> <p>9 MR. DESAI: Objection to form.</p> <p>10 A. Did I have a role in developing</p> <p>11 Kewazinga's construction of these claims?</p> <p>12 No.</p> <p>13 Q. There are three patents at</p> <p>14 issue in this case; is that right?</p> <p>15 A. Yes.</p> <p>16 Q. One patent is patent number</p> <p>17 6,535,226, also known as the '226 patent,</p> <p>18 which is attached as Exhibit A to your</p> <p>19 declaration; is that right?</p> <p>20 A. Let's check.</p> <p>21 Yes.</p> <p>22 Q. The second patent is U.S.</p> <p>23 patent number 6,522,325, also known as</p> <p>24 the '325 patent, which is attached as</p> <p>25 Exhibit B to your declaration; is that</p>	<p style="text-align: right;">Page 25</p> <p>1 Lubin</p> <p>2 A. I'm sorry, can you say that</p> <p>3 again or in some other way?</p> <p>4 Q. I will withdraw the question.</p> <p>5 What is the scope of your assignment</p> <p>6 here?</p> <p>7 MR. DESAI: Objection to form.</p> <p>8 A. Well, you know, I would read</p> <p>9 off from my expert report. You know, and</p> <p>10 I think that says it very well, I can do</p> <p>11 that. I was asked to investigate and</p> <p>12 provide my opinions regarding the</p> <p>13 interpretation of certain language in the</p> <p>14 claims of those patents. And in</p> <p>15 particular the claim construction of</p> <p>16 those two claim definitions that are in</p> <p>17 dispute. That was it.</p> <p>18 Q. So sitting here today, you have</p> <p>19 no opinion on whether the patents are</p> <p>20 valid or invalid, is that true?</p> <p>21 MR. DESAI: Objection to form.</p> <p>22 A. Again, you know, I have not had</p> <p>23 a chance to formulate an opinion one way</p> <p>24 or the other on that, so I can't answer</p> <p>25 that question.</p>

7 (Pages 22 - 25)

<p style="text-align: right;">Page 46</p> <p>1 Lubin</p> <p>2 MR. DESAI: Objection to the</p> <p>3 form.</p> <p>4 A. I arrived at that by reviewing</p> <p>5 some of the materials in the patents and</p> <p>6 understanding what kinds of techniques</p> <p>7 were being used there and relating it</p> <p>8 back to my education and my previous</p> <p>9 experience.</p> <p>10 Q. Did you meet your definition in</p> <p>11 1998?</p> <p>12 A. Yes, I did.</p> <p>13 Q. So you still meet your</p> <p>14 definition today, is that right?</p> <p>15 A. I hope so. Yes.</p> <p>16 Q. Do you have a bachelor's degree</p> <p>17 in computer science?</p> <p>18 A. No, I don't.</p> <p>19 Q. Do you have a bachelor's degree</p> <p>20 in computer engineering?</p> <p>21 A. I have a bachelor's degree in</p> <p>22 experimental psychology, which is, you</p> <p>23 know, in this case pretty highly related</p> <p>24 to the materials that we're talking</p> <p>25 about. So we can go down a list of all</p>	<p style="text-align: right;">Page 48</p> <p>1 Lubin</p> <p>2 A. No.</p> <p>3 Q. Do you have a postgraduate</p> <p>4 degree in computer engineering?</p> <p>5 A. No.</p> <p>6 Q. Do you have one to two years of</p> <p>7 experience in the field of computer</p> <p>8 vision?</p> <p>9 A. Yes, at least.</p> <p>10 Q. Do you have one to two years of</p> <p>11 experience in the field of image</p> <p>12 processing?</p> <p>13 A. Yes, at least.</p> <p>14 Q. So you don't have a computer</p> <p>15 engineering degree, true?</p> <p>16 A. That's true.</p> <p>17 Q. I am going to introduce another</p> <p>18 exhibit on Exhibit Share.</p> <p>19 (Exhibit 3, Dr. Keith Hannah's</p> <p>20 original and supplemental declaration</p> <p>21 submitted in connection with Microsoft</p> <p>22 case, was so marked for</p> <p>23 identification, as of this date.)</p> <p>24 Q. I am introducing as Exhibit</p> <p>25 number 3 Dr. Hannah's declaration in the</p>
<p style="text-align: right;">Page 47</p> <p>1 Lubin</p> <p>2 the computer related fields that I do not</p> <p>3 have a bachelor's degree in and I will</p> <p>4 respond appropriately to each one of</p> <p>5 those.</p> <p>6 Q. Is your bachelor's degree in</p> <p>7 experimental psychology equivalent to a</p> <p>8 computer science or a computer</p> <p>9 engineering degree?</p> <p>10 MR. DESAI: Objection to the</p> <p>11 form.</p> <p>12 A. Equivalent in what way? What</p> <p>13 do you mean equivalent?</p> <p>14 Q. I'll withdraw the question. Do</p> <p>15 you have three to five years of</p> <p>16 experience in the field of computer</p> <p>17 vision?</p> <p>18 A. Yes, at least.</p> <p>19 Q. Do you have three to five years</p> <p>20 of experience in the field of image</p> <p>21 processing?</p> <p>22 A. Yes.</p> <p>23 Q. Just for the record, do you</p> <p>24 have a postgraduate degree in computer</p> <p>25 science?</p>	<p style="text-align: right;">Page 49</p> <p>1 Lubin</p> <p>2 Microsoft litigation. Please let me know</p> <p>3 when you see it.</p> <p>4 A. Okay.</p> <p>5 Q. You reviewed Dr. Hannah's</p> <p>6 declaration, which is Exhibit 3, for this</p> <p>7 case; is that right?</p> <p>8 A. Yes, I did.</p> <p>9 Q. And you said you generally</p> <p>10 agree with his opinions in this</p> <p>11 declaration?</p> <p>12 A. Yeah, generally speaking, yes.</p> <p>13 Q. Please turn to paragraph 23 of</p> <p>14 Exhibit 3.</p> <p>15 A. Okay.</p> <p>16 Q. Do you see it says that a</p> <p>17 person of ordinary skill in the art would</p> <p>18 have "a bachelor's degree in computer</p> <p>19 science, computer engineering or the</p> <p>20 equivalent, and three to five years of</p> <p>21 experience in the field of computer</p> <p>22 vision, image processing or a</p> <p>23 postgraduate degree in computer science,</p> <p>24 computer engineering or the equivalent,</p> <p>25 and one to two years of experience in the</p>

<p style="text-align: right;">Page 126</p> <p>1 Lubin</p> <p>2 without knowing other things about the</p> <p>3 cameras as well. Like their focal length</p> <p>4 and what kind of lens it was and things</p> <p>5 like that. But if you fully</p> <p>6 characterized both cameras and you knew</p> <p>7 where each of those cameras were pointing</p> <p>8 with however much precision you would</p> <p>9 need for a particular telepresence</p> <p>10 application, then those, yes, those two</p> <p>11 image sources would be considered an</p> <p>12 array of cameras.</p> <p>13 Now, if those two image sources</p> <p>14 don't, aren't, you know, don't capture</p> <p>15 material that's fairly close by to each</p> <p>16 other, then it's hard to know how you</p> <p>17 would use those outputs for navigating,</p> <p>18 because the whole point of these patents</p> <p>19 is progressive views through an</p> <p>20 environment.</p> <p>21 So progressive means that you</p> <p>22 are reasonably close from one view to the</p> <p>23 next.</p> <p>24 Q. Can you tell me again what</p> <p>25 "known relationship" means?</p>	<p style="text-align: right;">Page 128</p> <p>1 Lubin</p> <p>2 A. Yes.</p> <p>3 Q. So really what you mean is an</p> <p>4 array of cameras is a set of multiple</p> <p>5 cameras each with a knowable relationship</p> <p>6 to each other, is that fair?</p> <p>7 MR. DESAI: Objection to form.</p> <p>8 A. Well, you know, again, it's</p> <p>9 getting back to the same issue of, you</p> <p>10 know, are you going -- it's not useful as</p> <p>11 an array until and unless you know that</p> <p>12 relationship. So it's knowable, and then</p> <p>13 you obtain it and then you use it. So</p> <p>14 that's how I answer.</p> <p>15 Q. So an array of cameras does not</p> <p>16 exist until you know the relationship</p> <p>17 between the cameras, is that fair?</p> <p>18 MR. DESAI: Objection to form.</p> <p>19 A. I mean, that's almost a</p> <p>20 philosophical question, isn't it. In</p> <p>21 order to use it, you have to know the</p> <p>22 relationship. So when you're capturing a</p> <p>23 new image, say when you're adding a new</p> <p>24 camera to the array or you're moving a</p> <p>25 camera to create a new array element, you</p>
<p style="text-align: right;">Page 127</p> <p>1 Lubin</p> <p>2 MR. DESAI: Objection to form.</p> <p>3 A. It means knowing approximately,</p> <p>4 to whatever degree you need, knowing the</p> <p>5 orientation of the cameras relative to</p> <p>6 each other and approximate distance</p> <p>7 between them. That's not -- it doesn't</p> <p>8 need to be precisely determined.</p> <p>9 Q. Is there anything else that you</p> <p>10 would need to know to determine the</p> <p>11 relationship between the cameras?</p> <p>12 MR. DESAI: Objection to form.</p> <p>13 Vague.</p> <p>14 A. You know, sitting here, I can't</p> <p>15 think of what else you would need to</p> <p>16 know, but, you know, I may be forgetting</p> <p>17 something. I mean, is there something in</p> <p>18 particular you wanted to ask in a</p> <p>19 different way about that?</p> <p>20 Q. No. I am just trying to</p> <p>21 understand how to determine whether you</p> <p>22 have a known relationship between the</p> <p>23 cameras. You testified that you can</p> <p>24 determine the known relationship after</p> <p>25 images are captured, right?</p>	<p style="text-align: right;">Page 129</p> <p>1 Lubin</p> <p>2 capture that image and you determine the</p> <p>3 relationship between that camera and the</p> <p>4 previous ones, and that's how we view the</p> <p>5 rest of the purpose that is being put to</p> <p>6 in these patents.</p> <p>7 So I am just not sure how to</p> <p>8 answer. Can you try again in maybe a</p> <p>9 different way?</p> <p>10 Q. Is it true that knowing the</p> <p>11 relationship between the cameras is a</p> <p>12 prerequisite to the existence of an array</p> <p>13 of cameras?</p> <p>14 MR. DESAI: Objection to form.</p> <p>15 A. It's a prerequisite for using</p> <p>16 the array of cameras. It's a</p> <p>17 prerequisite for any feasible use of an</p> <p>18 array of cameras in any of these patents.</p> <p>19 So at what point -- is it an array of</p> <p>20 cameras as you're putting the camera in</p> <p>21 position, let's say using a rail, is it</p> <p>22 an array of cameras as you're putting it</p> <p>23 in the position. What about as you're</p> <p>24 screwing it down.</p> <p>25 Those are all kind of steps in</p>

<p style="text-align: right;">Page 146</p> <p>1 Lubin</p> <p>2 Do you see that?</p> <p>3 A. Yes, I do.</p> <p>4 Q. Do you agree that the claims</p> <p>5 require progressively different</p> <p>6 perspectives of the environment?</p> <p>7 MR. DESAI: Objection to form.</p> <p>8 A. Well, certainly there is a</p> <p>9 phrase in the claim that talks about a</p> <p>10 series of cameras having progressive</p> <p>11 camera perspectives of the environment.</p> <p>12 So it seems like a noncontroversial</p> <p>13 point.</p> <p>14 Q. So the word -- strike that.</p> <p>15 So the phrase "array of</p> <p>16 cameras" means something more than that,</p> <p>17 right?</p> <p>18 MR. DESAI: Objection to form.</p> <p>19 A. It means something more than</p> <p>20 what?</p> <p>21 Q. Means something more than a</p> <p>22 series of cameras having progressively</p> <p>23 different perspectives of the</p> <p>24 environment?</p> <p>25 MR. DESAI: Same objection.</p>	<p style="text-align: right;">Page 148</p> <p>1 Lubin</p> <p>2 construction of array of cameras is</p> <p>3 applicable to the patent I discuss</p> <p>4 particular examples, embodiments within</p> <p>5 the patent, that's true.</p> <p>6 Q. In discussing how your</p> <p>7 construction of array of cameras is</p> <p>8 applicable to the patent, you discussed</p> <p>9 examples, including what you refer to as</p> <p>10 subarrays in the embodiments; is that</p> <p>11 fair?</p> <p>12 A. Yes.</p> <p>13 Q. Does the word "subarrays"</p> <p>14 appear in any of the asserted patents?</p> <p>15 A. I don't believe so.</p> <p>16 Q. Does the term --</p> <p>17 A. No, after you.</p> <p>18 Q. Does the term "subarrays"</p> <p>19 appear in any of the claims of the</p> <p>20 asserted patents?</p> <p>21 MR. DESAI: Objection to form.</p> <p>22 A. I haven't done the word search,</p> <p>23 but I am guessing that it doesn't.</p> <p>24 But let me add at this point</p> <p>25 that it is obvious to someone -- I</p>
<p style="text-align: right;">Page 147</p> <p>1 Lubin</p> <p>2 A. It's a use of the array of</p> <p>3 cameras in this, for this claim. So it's</p> <p>4 not something that's required of the</p> <p>5 array of cameras. It's required for the</p> <p>6 use of the array of cameras in this</p> <p>7 claim.</p> <p>8 Q. Okay. In your declaration you</p> <p>9 discussed subarrays, right?</p> <p>10 A. Yes.</p> <p>11 Q. Your construction of the term</p> <p>12 "array of cameras" is based, in part, on</p> <p>13 your contention that the patent depicts</p> <p>14 subarrays; is that fair?</p> <p>15 MR. DESAI: Objection to form.</p> <p>16 A. You'll have to unpack that for</p> <p>17 me. Can you ask that as perhaps a</p> <p>18 simpler question?</p> <p>19 Q. In explaining how you</p> <p>20 support -- strike that.</p> <p>21 In explaining the evidence that</p> <p>22 supports your construction, you discuss</p> <p>23 subarrays, right?</p> <p>24 MR. DESAI: Objection to form.</p> <p>25 A. In discussing how my</p>	<p style="text-align: right;">Page 149</p> <p>1 Lubin</p> <p>2 shouldn't say obvious, it is known to</p> <p>3 someone skilled in the art that when you</p> <p>4 have an array and you add elements to</p> <p>5 that array, that first array can be</p> <p>6 considered to be a subarray of the second</p> <p>7 one. So whether or not the term</p> <p>8 "subarray" is used here, that is, that's</p> <p>9 not material.</p> <p>10 And in fact when you look at</p> <p>11 Figure 11 with reference to Figure 1, you</p> <p>12 see that array 10, labeling that complete</p> <p>13 set of excentric rings in Figure 11, each</p> <p>14 of those rings is described as an array</p> <p>15 and item 10 is described in the entire</p> <p>16 set of those rings as an array. And so,</p> <p>17 you know, whether you want to call it an</p> <p>18 array of arrays or an array of subarrays,</p> <p>19 it's still the same -- it's the same</p> <p>20 thing.</p> <p>21 And in fact in one example, in</p> <p>22 the patents, I can't remember where</p> <p>23 offhand, they talk about an array and</p> <p>24 then a matrix made of those more than one</p> <p>25 array.</p>

<p style="text-align: right;">Page 170</p> <p>1 Lubin</p> <p>2 go off the record.</p> <p>3 THE VIDEOGRAPHER: We are going</p> <p>4 off the record at 3:29 p.m., this</p> <p>5 marks the end of video 4.</p> <p>6 (Off the record.)</p> <p>7 THE VIDEOGRAPHER: We are back</p> <p>8 on the record at 3:36 p.m.</p> <p>9 BY MS. CHEN:</p> <p>10 Q. Dr. Lubin, do you have any</p> <p>11 changes to make to your testimony from</p> <p>12 before the break?</p> <p>13 A. No, I don't.</p> <p>14 Q. Turning back to your expert</p> <p>15 report, which is Exhibit 1. Please turn</p> <p>16 to paragraph 47.</p> <p>17 A. Okay.</p> <p>18 Q. You see that your opinion is</p> <p>19 that a person of ordinary skill in the</p> <p>20 art that would understand that the term</p> <p>21 "array of cameras" refers to "A</p> <p>22 configuration of cameras wherein the</p> <p>23 configuration can be created over time by</p> <p>24 moving cameras"; do you see that?</p> <p>25 A. Yes, I do.</p>	<p style="text-align: right;">Page 172</p> <p>1 Lubin</p> <p>2 MR. DESAI: Objection to form.</p> <p>3 A. Well, let's look at, I believe</p> <p>4 it's Figure 12. There is that loop there</p> <p>5 in Figure 12.</p> <p>6 The control at item 1250, do</p> <p>7 you basically, do you want a camera</p> <p>8 arrays in a given diameter? Yes, then go</p> <p>9 back and add another array. If not, then</p> <p>10 image storage complete.</p> <p>11 Obviously at some point you're</p> <p>12 going to run out of room in your</p> <p>13 environment or you're going to, there is</p> <p>14 going to be various stopping points that</p> <p>15 would cause you to stop. But, you know,</p> <p>16 theoretically, you could go on for a</p> <p>17 long, long time and have a very, very</p> <p>18 large array. And the same rules would</p> <p>19 apply.</p> <p>20 Q. How do you know when step 12-10</p> <p>21 in Figure 12 is complete?</p> <p>22 MR. DESAI: Objection to the</p> <p>23 form.</p> <p>24 A. How would you know when that is</p> <p>25 complete?</p>
<p style="text-align: right;">Page 171</p> <p>1 Lubin</p> <p>2 Q. So the configuration can be</p> <p>3 created over time, right?</p> <p>4 A. Yes.</p> <p>5 Q. And there is no limit in your</p> <p>6 construction on how much time is</p> <p>7 available for the creation of that</p> <p>8 configuration, correct?</p> <p>9 MR. DESAI: Objection to form.</p> <p>10 A. That's correct.</p> <p>11 Q. The configuration could be</p> <p>12 created over a period of seconds, right?</p> <p>13 A. Yes.</p> <p>14 Q. The array of cameras could be</p> <p>15 created over a period of minutes, right?</p> <p>16 A. Yes.</p> <p>17 Q. The array of cameras could be</p> <p>18 created over a period of days?</p> <p>19 A. Yes. In fact, it could be, you</p> <p>20 know, it could take years as well, as</p> <p>21 long as, you know, it fits within the</p> <p>22 application that you are trying to use it</p> <p>23 for.</p> <p>24 Q. Okay. How do you know if</p> <p>25 you're done creating an array?</p>	<p style="text-align: right;">Page 173</p> <p>1 Lubin</p> <p>2 Q. Let me restate the question.</p> <p>3 How do you know in Figure 12,</p> <p>4 step 12-10, when a cylindrical array of</p> <p>5 cameras around an environment has been</p> <p>6 situated?</p> <p>7 MR. DESAI: Same objection.</p> <p>8 A. I guess you would finish</p> <p>9 putting it there and then it would be</p> <p>10 situated.</p> <p>11 Maybe I am not understanding</p> <p>12 the question.</p> <p>13 Q. In a situation where a camera</p> <p>14 is moved over time, it's subjectively up</p> <p>15 to the camera operator to determine when</p> <p>16 to stop and therefore create the array,</p> <p>17 right?</p> <p>18 MR. DESAI: Objection to form.</p> <p>19 A. Subjectively, you know, again,</p> <p>20 it depends on the application.</p> <p>21 I can imagine some applications</p> <p>22 in which you would have -- you would want</p> <p>23 to put the cameras at a relatively</p> <p>24 uniform distance from each other. Other</p> <p>25 cases in which, for example, you would,</p>

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2 let me put another camera in there and

3 even by itself, have it, you know,

4 re-traverse the path that it was supposed

5 to be on.

6 And that would count, too, as

7 an element of that single array of

8 cameras or, you know, of cameras being,

9 of knowing when you had enough.

10 I am just trying to give you

11 different examples that show that it's

12 not a question that you can ask

13 generally -- I mean, that you can answer

14 generally.

15 Q. From a time perspective,

16 whether you have an array of cameras

17 depends on when the camera operator

18 decides to stop moving the camera to

19 different positions, right?

20 MR. DESAI: Objection to form.

21 Asked and answered.

22 A. If you're not -- if you're not

23 creating any more positions for that one

24 camera, then you're done.

25 Q. Is array of cameras one of

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2 those things where it depends on the use

3 and other factors, so you know it when

4 you see it?

5 MR. DESAI: Objection to the

6 form. Vague.

7 A. Well, as I already testified,

8 you know, an array of cameras, you can

9 set up an array of cameras that will be

10 more or less adequate for a particular

11 application. And so I think that's the

12 best that I can answer.

13 If you want to try a more

14 specific question, I can try to answer

15 it.

16 Q. Is camera one at location A and

17 camera two at location B -- strike that.

18 Is camera one at location A on

19 December 1st and camera two at location B

20 on January 1st an array of cameras?

21 A. I think I've already answered

22 that. But, you know, it depends on the

23 application. If they meet the

24 requirements that I've laid out in the

25 claim construction, then, yes, if they

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2 are, have a known relation to each other,

3 and, you know, that would be it.

4 Q. In your declaration, can you

5 please turn to paragraph 48.

6 A. Okay.

7 Q. You see paragraph 48 goes onto

8 page 23, do you see that you cite the

9 definition of "array" from Random House

10 Webster's College Dictionary, 1991.

11 A. Yes, I do.

12 Q. Do you see that it says --

13 strike that.

14 A. 1991.

15 Q. Yes. 1991. Do you see that

16 you opine your "construction is

17 consistent with the definition of 'array'

18 (i.e. 'regular order or arrangement')"?

19 A. Yes.

20 Q. What does it mean to have a

21 regular order or arrangement?

22 MR. DESAI: Objection to form.

23 A. In this context it means that

24 you can index your way through that array

25 and, you know, find your way to different

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2 nodes of the array in a, you know,

3 regular, fully specifiable process.

4 So, you know, just looking at

5 array coordinates is the standard, most

6 typical, way of doing that. When you go

7 to a node that is at a particular array

8 coordinate, that is fully specifying

9 where you are in the array.

10 Q. And what do you mean -- strike

11 that.

12 What does "regular" mean in

13 this context?

14 MR. DESAI: Objection to form.

15 A. I believe it means what I just

16 said. It means that it is -- it is an

17 order in which you can find your way

18 around to the different nodes.

19 Q. Does regular in this context

20 mean uniform intervals?

21 MR. DESAI: Objection to form.

22 A. No. There is no requirement,

23 you know, in the way the array is used by

24 the other elements of the patents that

25 would require a uniform distance between

<p style="text-align: right;">Page 182</p> <p>1 Lubin</p> <p>2 the views of the different array</p> <p>3 elements.</p> <p>4 Q. So in your opinion, two cameras</p> <p>5 at any point in time could be an array of</p> <p>6 cameras if they have a known relationship</p> <p>7 to one another?</p> <p>8 MR. DESAI: Objection to form.</p> <p>9 A. As long as they are -- known</p> <p>10 relationship, yeah.</p> <p>11 But again, it doesn't make</p> <p>12 sense to think about them unless</p> <p>13 there's -- you know, from the perspective</p> <p>14 of these patents, it doesn't make sense</p> <p>15 to think about those two cameras unless</p> <p>16 they contribute in some way to creating</p> <p>17 views through a navigable environment.</p> <p>18 Q. Moving on to the next term,</p> <p>19 please turn to page 16 of your</p> <p>20 declaration.</p> <p>21 A. All right.</p> <p>22 Q. Okay. Your opinion is that a</p> <p>23 person of skill in the art -- strike</p> <p>24 that.</p> <p>25 Your opinion is that a person</p>	<p style="text-align: right;">Page 184</p> <p>1 Lubin</p> <p>2 on -- after I had clarified my view and</p> <p>3 then they wrote it out. But it was my</p> <p>4 own view.</p> <p>5 I did not write those words</p> <p>6 down. They were -- they were entered by</p> <p>7 someone else other than me into the</p> <p>8 document.</p> <p>9 Q. Did you develop your</p> <p>10 construction of the term "mosaicing"</p> <p>11 before or after reviewing the patent?</p> <p>12 MR. DESAI: Object to the form.</p> <p>13 A. I developed it based on my</p> <p>14 understanding of that term in my</p> <p>15 experience and as it would be understood</p> <p>16 by a layperson.</p> <p>17 And then I confirmed that that</p> <p>18 was, you know, that that term applied</p> <p>19 after reviewing the patents in detail.</p> <p>20 Q. What do you understand</p> <p>21 "mosaicing" in image processing to mean?</p> <p>22 MR. DESAI: Objection to form.</p> <p>23 A. I understand it to mean what I</p> <p>24 said it means here. It's a process by</p> <p>25 which you take multiple images, you align</p>
<p style="text-align: right;">Page 183</p> <p>1 Lubin</p> <p>2 of ordinary skill in the art would</p> <p>3 understand that the term "mosaicing"</p> <p>4 refers to "Creating imagery assembled</p> <p>5 from a plurality of images or portions</p> <p>6 thereof, including an alignment process</p> <p>7 and a composition process," right?</p> <p>8 A. Yes.</p> <p>9 Q. Is your opinion based on the</p> <p>10 patent or what this term normally means?</p> <p>11 MR. DESAI: Objection to form.</p> <p>12 A. It's based on my -- as before,</p> <p>13 when we were talking about array of</p> <p>14 cameras, it's based on what I understand</p> <p>15 that term to mean to a layperson, but,</p> <p>16 you know, checking for consistency with</p> <p>17 what I have seen in the patents, and that</p> <p>18 term, I believe, applies based on that</p> <p>19 further analysis.</p> <p>20 Q. For your construction of the</p> <p>21 term "mosaicing," did you come up with</p> <p>22 the words that make up this construction?</p> <p>23 MR. DESAI: Objection to form.</p> <p>24 A. I discussed them in detail with</p> <p>25 the attorneys and after we had agreed</p>	<p style="text-align: right;">Page 185</p> <p>1 Lubin</p> <p>2 them and then you compose them.</p> <p>3 I like to think of it in terms</p> <p>4 of being as simple as that. You have a</p> <p>5 bunch of still photos that cover a</p> <p>6 particular area, and the alignment</p> <p>7 process is taking the photos and changing</p> <p>8 their orientation with respect to each</p> <p>9 other, so that they, you know, align as</p> <p>10 well as possible.</p> <p>11 The composition process, in</p> <p>12 that case, is taking them into place, to</p> <p>13 say. And then after you have affixed</p> <p>14 them in some way, then you have a mosaic,</p> <p>15 and you've performed mosaicing.</p> <p>16 Q. Before September of 1998, what</p> <p>17 was your experience with mosaicing in</p> <p>18 image processing?</p> <p>19 A. Mosaicing, I think that I had</p> <p>20 visited -- I think around that time we</p> <p>21 were doing some work with government</p> <p>22 image analysts who looked at aerial</p> <p>23 mosaics, so mosaics of images from the</p> <p>24 air. And so I saw some of what they were</p> <p>25 dealing with with respect to those</p>

<p style="text-align: right;">Page 214</p> <p>1 Lubin</p> <p>2 Q. Do you agree that the Kewazinga</p> <p>3 patents cite Burt to explain how mixing</p> <p>4 may be accomplished by mosaicing?</p> <p>5 MR. DESAI: Objection to form.</p> <p>6 A. It presents one way of</p> <p>7 navigating between camera outputs.</p> <p>8 Q. Are there other ways of</p> <p>9 navigating between camera outputs that</p> <p>10 are disclosed in the Kewazinga patent?</p> <p>11 MR. DESAI: Objection to form.</p> <p>12 A. I'm not sure. I would have to</p> <p>13 look in detail throughout the patents to</p> <p>14 say one way or the other.</p> <p>15 Q. Here in column 17, what is the</p> <p>16 purpose of the mixing that is</p> <p>17 accomplished by mosaicing? Strike that.</p> <p>18 Here in column 17 of the '234</p> <p>19 patent, what is the purpose of the mixing</p> <p>20 that is accomplished by mosaicing?</p> <p>21 MR. DESAI: Objection to form</p> <p>22 and vague.</p> <p>23 A. Well, let me read what it says.</p> <p>24 "In another embodiment mixing</p> <p>25 may be accomplished by mosaicing the</p>	<p style="text-align: right;">Page 216</p> <p>1 Lubin</p> <p>2 patent, you know, chooses to include</p> <p>3 this, this patent on mosaicing, you know,</p> <p>4 for these purposes, I, you know, I don't</p> <p>5 think I can answer that at this time.</p> <p>6 Q. I am trying to understand the</p> <p>7 relevance of the Kewazinga patent's</p> <p>8 citation to Burt, in the context of the</p> <p>9 Kewazinga patent and the meaning of</p> <p>10 mosaicing.</p> <p>11 Can you explain your</p> <p>12 understanding of what mosaicing is for in</p> <p>13 the Kewazinga patent?</p> <p>14 MR. DESAI: Objection to form.</p> <p>15 A. I can certainly give a couple</p> <p>16 of examples of what it's used for. But</p> <p>17 again, I don't think I can give a</p> <p>18 complete answer to that question. And I</p> <p>19 might forget something about why they are</p> <p>20 using it.</p> <p>21 Certainly, one, one reason they</p> <p>22 would want to use it is to make better</p> <p>23 transitions between one camera output and</p> <p>24 another. I don't want to say one way or</p> <p>25 the other whether that is the only reason</p>
<p style="text-align: right;">Page 215</p> <p>1 Lubin</p> <p>2 outputs of the intermediate cameras."</p> <p>3 So certainly, it's saying that</p> <p>4 in some embodiments, mixing can be</p> <p>5 accomplished by mosaicing.</p> <p>6 So I think that's the extent to</p> <p>7 which I can productively answer the</p> <p>8 question without looking through</p> <p>9 everything else in the patents.</p> <p>10 Q. In the context of the patent,</p> <p>11 would you agree that mixing is describing</p> <p>12 the transition between images in the</p> <p>13 virtual environment?</p> <p>14 MR. DESAI: Objection to form.</p> <p>15 A. That's one way it can be used.</p> <p>16 I would not say it's necessarily the only</p> <p>17 way.</p> <p>18 To answer your next question, I</p> <p>19 think I would have to look through the</p> <p>20 patents to see if they describe other</p> <p>21 ways. This was not really my purview in</p> <p>22 this task. I was asked to opine on the</p> <p>23 claim constructions of array of cameras</p> <p>24 and mosaicing.</p> <p>25 So, you know, why the Kewazinga</p>	<p style="text-align: right;">Page 217</p> <p>1 Lubin</p> <p>2 they would use it and that was not a part</p> <p>3 of what I was asked to do.</p> <p>4 Q. So as part of what you were</p> <p>5 asked to do -- strike that.</p> <p>6 What were you asked to do?</p> <p>7 A. I was asked to opine on the</p> <p>8 claim construction on the definitions of</p> <p>9 mosaicing and array of cameras in these</p> <p>10 patents.</p> <p>11 Q. In developing your opinion on</p> <p>12 the claim construction on the definition</p> <p>13 of mosaicing, did you consider the</p> <p>14 purpose for which mosaicing is discussed</p> <p>15 in the Kewazinga patent?</p> <p>16 MR. DESAI: Objection to form.</p> <p>17 A. Yes, I did.</p> <p>18 Q. And what is the purpose for</p> <p>19 which mosaicing is discussed in the</p> <p>20 Kewazinga patent?</p> <p>21 A. As I said, one of the purposes</p> <p>22 is to -- is to create better transitions</p> <p>23 between camera outputs.</p> <p>24 I just can't off the top of my</p> <p>25 head say that that is the only reason --</p>

<p style="text-align: right;">Page 218</p> <p>1 Lubin</p> <p>2 the only reason that was being used.</p> <p>3 Q. You mentioned earlier that you</p> <p>4 had come across the Burt patent before</p> <p>5 your work on this case, right?</p> <p>6 A. Yeah. I think Peter was very</p> <p>7 proud of him and I think gave a</p> <p>8 presentation about it in my early days.</p> <p>9 Q. What do you recall about this</p> <p>10 patent when you picked it up again for</p> <p>11 this case?</p> <p>12 A. I don't know, not much. I</p> <p>13 needed it to review it and remind myself</p> <p>14 what was in it. That's my answer.</p> <p>15 Q. Do you agree that when</p> <p>16 proofreading a document, that means the</p> <p>17 act of proofreading the document?</p> <p>18 MR. DESAI: Objection. Vague.</p> <p>19 Foundation.</p> <p>20 A. Do I agree that proofreading a</p> <p>21 document means the act of proofreading</p> <p>22 the document?</p> <p>23 Q. Yes.</p> <p>24 A. The act of proofreading the</p> <p>25 document.</p>	<p style="text-align: right;">Page 220</p> <p>1 Lubin</p> <p>2 agree that's the description of the</p> <p>3 mosaicing process?</p> <p>4 MR. DESAI: Objection to form.</p> <p>5 A. Yes.</p> <p>6 Q. And that mosaicing process may</p> <p>7 not result in a perfectly mosaiced image;</p> <p>8 is that fair?</p> <p>9 MR. DESAI: Object to the form.</p> <p>10 A. So I see the Socratic vortex</p> <p>11 that you're trying to suck me in here.</p> <p>12 As I opined earlier, creating a</p> <p>13 mosaic does not have to -- the objective</p> <p>14 of that is not necessarily to create a</p> <p>15 seamless mosaic.</p> <p>16 So, yes, even if you're</p> <p>17 mosaicing, it doesn't mean that you're</p> <p>18 attempting to create a seamless mosaic.</p> <p>19 In some cases you would want the seams to</p> <p>20 be more visible. So a more perfect</p> <p>21 mosaic is not always a seamless mosaic.</p> <p>22 Q. Do you agree that in the Burt</p> <p>23 patent there is an alignment process and</p> <p>24 a composition process -- strike that.</p> <p>25 Do you agree that in the Burt</p>
<p style="text-align: right;">Page 219</p> <p>1 Lubin</p> <p>2 Q. I will rephrase the question.</p> <p>3 A. Yeah.</p> <p>4 Q. Would you agree that when</p> <p>5 proofreading a document, that means to</p> <p>6 proofread the document?</p> <p>7 MR. DESAI: Same objections.</p> <p>8 A. Yeah. I guess so, yeah.</p> <p>9 Q. And the goal of proofreading is</p> <p>10 to find and correct errors, would you</p> <p>11 agree?</p> <p>12 MR. DESAI: Same objections.</p> <p>13 A. Yes, I do.</p> <p>14 Q. And even after proofreading a</p> <p>15 document and finding and correcting some</p> <p>16 errors, there might still be errors,</p> <p>17 right?</p> <p>18 MR. DESAI: Objection to form.</p> <p>19 A. Yes.</p> <p>20 Q. So in this example, the word</p> <p>21 "proofreading" is a description of the</p> <p>22 process, right?</p> <p>23 A. Right.</p> <p>24 Q. In the context of the Burt</p> <p>25 patent, when mosaicing images, would you</p>	<p style="text-align: right;">Page 221</p> <p>1 Lubin</p> <p>2 patent, mosaicing is comprised of first</p> <p>3 an alignment process and second a</p> <p>4 composition process?</p> <p>5 A. Yes.</p> <p>6 Q. And you agree that in the</p> <p>7 second process, which is composition,</p> <p>8 there is also a selection process and a</p> <p>9 combination process?</p> <p>10 A. Yes. As described in the Burt</p> <p>11 patent, yes.</p> <p>12 Q. And do you agree that the</p> <p>13 composition process as described in Burt</p> <p>14 is also a requirement of the Kewazinga</p> <p>15 patent?</p> <p>16 MR. DESAI: Objection to form.</p> <p>17 A. I don't know. That's a patent</p> <p>18 question, not a claim construction</p> <p>19 question, in my opinion.</p> <p>20 Q. Do you agree that the term</p> <p>21 "mosaicing" is used in the claim term of</p> <p>22 the Kewazinga patent?</p> <p>23 A. Do I agree that the term</p> <p>24 "mosaicing" shows up in the claims of the</p> <p>25 Kewazinga patent? Is that your question.</p>

<p style="text-align: right;">Page 230</p> <p>1 Lubin</p> <p>2 be almost completely or completely</p> <p>3 overlapped and still have mosaicing. And</p> <p>4 if you have other ways of knowing the</p> <p>5 relation of the views to each other, they</p> <p>6 could even be separated by some distance.</p> <p>7 So, you know, in a -- you know,</p> <p>8 the analogy there is to a mosaic that you</p> <p>9 see in a museum, where there is some</p> <p>10 tiles that are missing, but you still get</p> <p>11 an overall sense of the view of that</p> <p>12 mosaic, but, you know, there is</p> <p>13 separations between the views.</p> <p>14 So there is no -- I don't</p> <p>15 believe there is any specific requirement</p> <p>16 on the degree of overlap between images</p> <p>17 in order to effect mosaicing.</p> <p>18 Q. If two images overlap, can they</p> <p>19 still be contiguous?</p> <p>20 MR. DESAI: Objection to form.</p> <p>21 A. Contiguous to me means they are</p> <p>22 not overlapping, that they are just</p> <p>23 against each other. That is not</p> <p>24 really -- well, A, I'm not sure where</p> <p>25 this is going, and B, it's not -- I don't</p>	<p style="text-align: right;">Page 232</p> <p>1 Lubin</p> <p>2 contiguous and do not have any overlap,</p> <p>3 can they be mosaic?</p> <p>4 MR. DESAI: Objection to form.</p> <p>5 Asked and answered.</p> <p>6 A. Yeah, I answered that. Yes, as</p> <p>7 long as you have some way of knowing the</p> <p>8 relationship between those two views, and</p> <p>9 you can, you know, put them in your</p> <p>10 virtual environment, such that they are</p> <p>11 in the right place.</p> <p>12 Q. Is it your opinion that the</p> <p>13 patent doesn't refer to the output of the</p> <p>14 cameras in the context of mosaicing?</p> <p>15 MR. DESAI: Objection to form.</p> <p>16 A. It certainly does, but it also</p> <p>17 refers to other things, such as graphical</p> <p>18 imagery and -- let me look up the exact</p> <p>19 words.</p> <p>20 Certainly, there can be camera</p> <p>21 outputs, but there are also additional</p> <p>22 source outputs which include, and I</p> <p>23 quote, "computer graphic imagery, virtual</p> <p>24 world camera views and virtual world grid</p> <p>25 data, virtual world imagery, virtual</p>
<p style="text-align: right;">Page 231</p> <p>1 Lubin</p> <p>2 believe it is within the scope of what I</p> <p>3 was asked to opine about.</p> <p>4 Q. I am trying to understand what</p> <p>5 images have the potential to be mosaic</p> <p>6 together and whether those images must be</p> <p>7 contiguous or whether they must overlap.</p> <p>8 Do you have an opinion on that?</p> <p>9 MR. DESAI: Object to the form.</p> <p>10 Asked and answered.</p> <p>11 A. I already answered that</p> <p>12 question. There is no requirement. And</p> <p>13 I believe I just said that, there is no</p> <p>14 requirement that they be in any</p> <p>15 particular relationship to each other.</p> <p>16 You know, there is no</p> <p>17 requirement that they overlap a certain</p> <p>18 amount or at all or they can overlap</p> <p>19 completely or a little bit, or they could</p> <p>20 be edge to edge or they could have some</p> <p>21 distance between them. As long as you</p> <p>22 have a way of determining, you have a</p> <p>23 known relation between those views, then</p> <p>24 you can do mosaicing.</p> <p>25 Q. And if two images are not</p>	<p style="text-align: right;">Page 233</p> <p>1 Lubin</p> <p>2 objects, and their grid positioning data,</p> <p>3 applets, sprites, avatars," et cetera.</p> <p>4 So you can mosaic anything that</p> <p>5 can be placed into the world, and that</p> <p>6 does not involve just camera outputs.</p> <p>7 Q. And could you point me to where</p> <p>8 you were reading to just now, Dr. Lubin?</p> <p>9 A. I'm sorry. Well, I was reading</p> <p>10 from my declaration, but it is the '234</p> <p>11 patent at 12, 39 to 13, 2.</p> <p>12 Q. And that was discussed at what</p> <p>13 paragraph at your declaration, Dr. Lubin?</p> <p>14 A. That was at paragraph 46.</p> <p>15 Q. Is mosaicing different --</p> <p>16 strike that.</p> <p>17 Is the process of mosaicing</p> <p>18 different when you're using printed</p> <p>19 photograph in analog form versus digital</p> <p>20 photograph?</p> <p>21 MR. DESAI: Objection to form.</p> <p>22 A. There is lots of differences in</p> <p>23 how you would deal with, you know, analog</p> <p>24 print photographs.</p> <p>25 One way to -- as I said at the</p>

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2 two, two cameras that were creating those

3 two images, it would be probably

4 impossible to mosaic them in any

5 meaningful way, nor would you want to

6 because there is nothing in any of them.

7 So, you know, there is examples

8 like that. I am sure I could come up

9 with other, other degenerate cases.

10 Q. Would it be a mosaic to take

11 two unrelated photographs and tape them

12 together?

13 MR. DESAI: Objection to form.

14 A. From the perspective of these

15 patents, it wouldn't make any sense to do

16 that. I can think of artistic uses of

17 mosaics where you would want to tape

18 together images that, on the surface,

19 that didn't have anything to do with each

20 other. But there may be some reason to

21 do that.

22 But, you know, from the

23 perspective of an image-based mosaic to

24 be used, where any, I think, imaginable

25 telepresence application, you would

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2 want -- I can't think of telepresence

3 applications where you would want to --

4 well, I guess you can, because if you

5 have an image that's -- some graphic

6 element that you want to put in the

7 mosaic at a certain point, just as an

8 indicator of something, just to give the

9 viewer some information about something,

10 you might want to put it in instead of

11 a -- one of the panes or one of the

12 panels of that mosaic. It would still be

13 a mosaic process from that perspective.

14 And that would, I guess, conform to the

15 idea that you put in sprites and applets

16 and virtual objects and other things in

17 the mosaic.

18 So having thought about it a

19 little bit from that perspective, I guess

20 I wouldn't want to exclude anything from

21 being put into a mosaic.

22 Q. Did you say sprites?

23 A. Yes, it says sprites here. A

24 sprite is like a, it's like a little

25 avatar. It's like a little graphic

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2 symbol that sort of looks like a little

3 mini -- little mini icon or something.

4 That's an older term, I believe.

5 Q. Is inserting sprites a

6 mosaicing process?

7 MR. DESAI: Objection to form.

8 A. Putting a sprite into a mosaic

9 would be considered a part of the

10 mosaicing process, yes.

11 Q. How so?

12 A. Well, I go back to what I read

13 before on paragraph 46, mosaicing camera

14 outputs with additional source output --

15 and again this is from '234, line 12, 39

16 to 15, 2 -- encompass computer graphic

17 imagery, virtual objects and their grid

18 positioning data. So in other words,

19 numbers, alphanumeric information.

20 So, yeah, a mosaic can

21 incorporate non-items that are clearly

22 not image based, but that help to inform

23 the meaning of the mosaic or to help the

24 viewer or user of the mosaic get a better

25 sense of what is there, or any kind of

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2 navigational aid or informational aid

3 about the mosaic can be incorporated into

4 the mosaic.

5 Q. If I have a photo of a person

6 smiling and I put a smiley face sticker

7 on that person's smiley face, would that

8 be a mosaicing process?

9 MR. DESAI: Objection to form.

10 Vague.

11 A. I mean, that's getting a bit

12 too far afield.

13 From the perspective of

14 mosaicing, as it's commonly thought of,

15 and then with further reliance on the

16 applications that are described across

17 these patents, there would be no reason

18 to consider a smiley face on a face to be

19 a mosaic.

20 If you had three smiling face

21 stickers or three stickers that had

22 something related to each other, and you

23 put them in different points on the face,

24 maybe that would be a mosaic, but

25 that's -- that seems far afield from what